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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,287	02/15/2002	Shih-Chieh Wang	BHT-3167-43	9029

7590 11/05/2003
BRUCE H. TROXELL
SUITE 1404
5205 LEESBURG PIKE
FALLS CHURCH, VA 22041

EXAMINER

LIU, MING HUN

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 11/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,287

Applicant(s)

WANG ET AL.

Examiner

Ming-Hun Liu

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description page 6, lines 25-26, specifically items 79 and 80. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 1 is objected to because on line 9, there is an unclear reference to the term "top section". It is suggested that the term be rewritten to read the "top section of the interface structure."

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art and US Patent 5,165,530 to Shinohara et al.

In reference to claims 1 and 6, the applicant's admitted prior art (refer to prior art figure 1) teaches a push button apparatus, comprising a micro switch (item 5) with an interface structure mounded on top of the micro switch (item 42), push bottom cap with a bottom surface (items 3 and 31) and a compression spring between the interface structure and the bottom surface of the top cap (item 6). The prior art also teaches a top cap with a protrusive hub ready to receive the interface structure, an interface structure that is hollow and includes at least one pair of independent opposing arms extending upwards.

What the prior art fails to teach is specifically how the hub and the interface arms fit together.

The fitting method proposed by the applicant is an alternative that is well known in the art. Shinohara shows in figure 7 a hub and interface structure that highly resembles the applicant's claimed invention.

As seen from figure 7, Shinohara teaches an interface structure with upward extending arms having the additional retaining jut formed on each opposing arm. Similarly, Shinohara also teaches a hub with a corresponding opening to receive the jut. This opening is larger than the jut itself, so that the interface structure can restrictively slide in the direction of the spring force.

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It would have been obvious to incorporate Shinohara's hub and interface structure connection method because of the extreme conventionality of using this support sliding push button configuration in spring loaded push buttons.

In reference to claim 2, it can be seen from figure 7 of Shinohara that the cross sections of the two structures are complementary.

In reference to claims 3 and 4, there is no disclosed criticality as to why the cross sections must be a square or circle. These limitations are design specifications that can be easily modified by the engineer skilled in the art. Square and circle cross sections are highly common shapes in the push button art. One skilled in the art would have understood which cross sectional shape best accommodates the functionality of the micro switch.

In reference to claims 5 and 7, the added limitation of having guide rails is an extremely conventional if not an obvious practice in the push button art. As seen from figure 1 of Shinohara, guide rails are widely used though out the device to assist in stability. Guide rails can be easily added onto the interface structure by adding form-fitting pieces of plastic to the original interface piece. It would have been to obvious to one in the art to add the guide rails in order to promote more secure sliding between the two elements.

In reference to claim 8, Shinohara discloses an interface structure (item 54, figure 7) formed in a graduated fashion.

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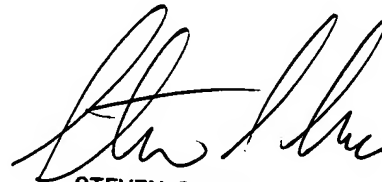
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on 703-305-9720. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Ming-Hun Liu



STEVEN SARAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600